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ABSTRACT

This collection of abstracts is part of a continuing series providing information on recent doctoral dissertations. The 20 titles deal with a variety of topics, including the following: (1) reading readiness, linguistic awareness, and nonverbal problem solving ability in relation to first grade reading achievement; (2) predictive accuracy of third and fifth grade students on linguistic and nonlinguistic comprehension measures; (3) the parameters of difficulty in narrative and expository prose texts; (4) developmental influences on reading readiness in kindergarten children; (5) prior knowledge and reading comprehension text bias; (6) the reliability and validity of the cloze and maze procedures as measures of comprehension of a social studies text; (7) using a group informal reading inventory to assess the reading performance of English-as-a-second-language students; (8) the relationship between vocabulary and readability of science textbooks for grades four, five, and six; (9) the relationships between reading performance and three measures of distractibility in young children; and (10) the use of a cloze test to judge the readability of a proposed science text for sixth grade students. (FL)

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READING READINESS, LINGUISTIC AWARENESS, AND NONVERBAL PROBLEM-SOLVING ABILITY IN RELATION TO FIRST GRADE READING ACHIEVEMENT

Order No. DA8205800

ABRAMSON, SHAREEN, PH.D. *George Peabody College for Teachers of Vanderbilt University*, 1981. 137pp. Major Professor: Earline D. Kendall

This two-phase investigation studied aspects of relationships among measures of reading readiness, linguistic awareness, nonverbal problem-solving ability, and reading achievement. Because previous research indicated that reading readiness tests are inefficient in identification of high risk readers, the first phase sought to clarify the predictive relationship between kindergarten reading readiness test performance and reading achievement assessed in first grade. The second phase examined concurrent interrelationships among measures of linguistic awareness, nonverbal problem-solving ability, and reading achievement as postulated by the cognitive clarity theory of learning to read.

Participants were first grade students enrolled in public schools in Murfreesboro, Tennessee. In the first phase of this investigation, performance by 298 students on the Total Reading subtest of the Stanford Achievement Test (SAT Reading) was related to kindergarten performance on the 1976 Metropolitan Readiness Tests (MRT). In the second phase, performance by 98 students on SAT Reading was related to concurrent performance on the Linguistic Awareness in Reading Readiness Test (LARR) and the Coloured Progressive Matrices (CPM).

Results of the first phase, in which linearity of regression of scores was tested, indicated that predictive validity of the MRT was constant, regardless of quality of performance. It was concluded that the MRT accurately identified high risk readers.

Second phase results revealed a significant correlation between LARR and SAT Reading performance. CPM performance was significantly correlated to SAT Reading and LARR performance. There were also significant differences in LARR and CPM scores among students rated low, average, and high in reading achievement. These findings provided evidence supporting the cognitive clarity theory.

Multiple regression and partial correlation analyses revealed that although LARR and CPM performance made a unique contribution in prediction of SAT Reading performance, LARR score appeared more related to reading progress than CPM score. However, a tentative finding suggested that adequate nonverbal problem-solving ability may compensate low reading skill, allowing successful solution of linguistic awareness problems by older students.

PREDICTIVE ACCURACY OF THIRD AND FIFTH GRADERS ON LINGUISTIC AND NON-LINGUISTIC COMPREHENSION MEASURES: THE RELATIONSHIP BETWEEN PERFORMANCE ON GRADUATED PASSAGE QUESTIONS UNDER LISTENING AND READING CONDITIONS AND THE STANDARD PROGRESSIVE MATRICES

Order No. 8201629

ALEXANDER, PATRICIA A. MULLINS, PH.D. *University of Maryland*, 1981. 131pp. Supervisor: Dr. Ruth Garner

This study, as an investigation of predictive accuracy, examined the relationship of subjects' performance on a non-linguistic measure of comprehension, the *Raven's Standard Progressive Matrices*, to their performance on linguistic measures of comprehension, graduated passages and questions from the Barnell-Loft Specific Skills *Drawing Conclusions* Series. These linguistic passages and questions were presented under silent reading and listening conditions. All third graders and fifty graders at a suburban Maryland parochial school served as the study population from which twenty subjects at each grade level were randomly selected. This sample was comprised of eighteen males and twenty-two females. All subjects received all treatment levels which consisted of four tasks administered in two sessions. Session I included the administration of the *Raven's*, with the added verbalization of item C-9, and passages and questions presented in a silent reading mode. In Session II all subjects completed passages and questions presented in a listening mode and the *Slosson Intelligence Test*. The graduated passages and question were contained in Comprehension Inventory I and II which were administered in counterbalanced format. Half of the subjects received Inventory I as the listening task and II as the silent reading task, while half received Inventory I as the silent reading task and II as the listening task. The first question under research in this study was whether there was a relationship between linguistic and non-linguistic predictive accuracy. A multiple correlation technique was used to ascertain the relationship between the *Raven's* and the listening and silent reading linguistic comprehension measures. A correlation coefficient significantly different from zero was achieved in the comparison of subjects' performance data for these tasks. The second question addressed by this study was whether the relationship between the non-linguistic and the listening linguistic measure of predictive accuracy would be stronger than the relationship between the non-linguistic and the reading linguistic measure of predictive accuracy. Through the use of a partial correlation technique it was determined that the relationship between the *Raven's* and the listening task was not statistically stronger than the relationship between the *Raven's* and the silent reading task. Both partial correlations, however, were determined to be significantly different from zero. The third question investigated by this study was whether there was a significant relationship between the *Raven's*, as a non-linguistic measure of predictive accuracy, and the *Slosson* as a linguistic measure of intelligence. The coefficient produced by the Pearson Product-Moment technique was assessed to be significantly different from zero. Finally, the study sought to ascertain if there were developmental differences in predictive accuracy. A *t* test for related samples produced significant differences for all outcome measures in the direction of the fifth-grade subjects. These findings confirmed the hypothesis that older students would perform the specified tasks at a higher level of predictive accuracy than younger students. Possible explanations of the outcomes of this investigation, and their relationship to research in the areas of language/thought, analogous reasoning, intelligence/cognition, reading/listening and comprehension/prediction were discussed, along with implications for theory, research, classroom and diagnostic practices.

TEXT COMPREHENSION: THE PARAMETERS OF DIFFICULTY IN NARRATIVE AND EXPOSITORY PROSE TEXTS: A REDEFINITION OF READABILITY

Order No. DA8203399

BATEN, LUT, PH.D. *University of Illinois at Urbana-Champaign*, 1981. 316pp.

The purpose of this study is to define the parameters of text and reader variables that effect comprehension in order to redefine readability. Eight different short and well-written texts were used. They were presented in an international reading assessment project, administered by the International Association for the Evaluation of Educational Achievement (IEA) to fourteen-year-old students from the USA and UK. Both the comprehension scores and the readers' comprehension as assessed by 'teacher's reference' were used as criteria to assess various factors in the text and in the implied process of reading as they might predict difficulty or ease.

The starting point of the analysis is the organizational and functional system of language as it is realized in these eight texts.

Different aspects of text, on a micro- and macro-structural level were analyzed quantitatively in relation to the comprehension of the readers. Four main parts can be distinguished: lexicon, (including the information structure of given, new, defined and undefined concepts), syntax (including the speed of closure), text structure (including coherence, lexical chains and theme-rheme organization) and propositional analysis (both on the micro- and the macro-structural level).

From this analysis, some textual characteristics were hypothesized to function as parameters of text comprehension. They were put into a theoretical model, which was supported by empirical data. The results showed that the parameters indicating ease of comprehension are: the familiarity of the lexicon and the coverage vocabulary used; the speed of closure; the number of defined and given concepts, and of defined and new concepts; 'summary' as an indicator of text duration; the narrative condition of a text; the theme-rheme consistency, cohesive harmony, and lexical chains; and the

sequential and linear organization. Parameters indicating difficulty of comprehension are: the number of complex outsiders; the number of subordinated clauses before the verb of the main clause; the number of 'reinstatements', 'reorganizations' and 'logical reorderings'; the 'pauses' and the different arguments used in theme position. These parameters are situated both on the micro- and the macro-level. One parameter by itself does not determine text difficulty, but only a set of parameters can do so. On various levels, the parameters are interrelated. Hence, it is not true that text genre by itself is decisive in predicting comprehension, but rather the parameters which are related to the text belonging to that specific text genre.

The study also highlights the importance of those textual characteristics which facilitate short term memory activity. Furthermore, the developed model proved its transferability to other related languages, Dutch and French.

The advantage of this approach to the analysis of readability lies in: (1) *Its method*: Since the analysis is on a quantified basis, the results are objective. Furthermore, the analysis has proved that readability can be objectively measured taking both the reader and the text as internal organization into account. (2) *Its applicability*: The analysis attempts to render an explanation rather than a mere description of processing ease of difficulty. Therefore it has pedagogical implications for the student, the teacher and the educator. These have been indicated. Furthermore, in its application of the parameters of difficulty, the study suggests that reading strategies used by readers in their native language can be transferred to the foreign language learning and teaching. In this way the study paves the way to readability in foreign language. (3) *Its interdisciplinary character*: The study draws upon various fields of research (linguistics, language teaching and learning, cognitive psychology). Models from these areas were applied in the processing by means of analyses from various angles on the same texts, processed by the same readers. Readability is thus redefined from a broad view, synthesizing and assessing our present knowledge of discourse processing.

PREDICTIVE VALIDITY OF A BATTERY OF READING READINESS SUBTESTS WITH 3RD AND 5TH GRADE READING ACHIEVEMENT

Order No. DA8211696

BERNSTEIN, SARALEE SACHS, Ed.D. *The Johns Hopkins University*, 1981. 102pp.

This study determined the predictive and discriminant validity of a battery of readiness subtests compiled and adapted by McLaughlin (1974). The battery screens children at the end of kindergarten for first grade placement. Readiness results were compared with subsequent reading achievement scores on the third and fifth grade Iowa Tests of Basic Skills.

Research hypotheses were developed to see if any subtests of the McLaughlin Battery alone, in combination, or in clusters, could accurately predict reading achievement in grades three and five. Additionally, it was hypothesized that this battery would discriminate between normal and disabled readers.

This study included all kindergarten students from two elementary schools. All students received the McLaughlin Screening Battery at the end of kindergarten. Three-fifths of these students remained in the schools to take the third and fifth grade Reading Comprehension subtest of the Iowa Tests of Basic Skills.

Multiple regresssion analysis was used to estimate the proportion of variance of the dependent variable (Reading Comprehension) that could be most efficiently accounted for by a linear combination of the independent variables (McLaughlin's subtests). Also, a stepwise procedure was used to assess the contribution of each variable in order to compare the amount of explained variance in the clusters, each cluster of the battery was entered into a regression analysis. To determine discriminative efficiency, the number of correct and incorrect classifications, false positive and false negative errors and validity coefficients were computed.

The results indicated that one subtest of the McLaughlin Screening Battery, Metropolitan Word Meaning, most accurately predicted reading comprehension at the third and fifth grade level. The study also found that among the skill clusters, only Verbal and Visual Clusters had predictive value. As a result of the discriminant analysis, thirty-four percent of the readers were classified incorrectly.

Implications of these results were examined in terms of predictive information on children at end of kindergarten that could be used in the identification of children with reading problems. Additionally, theoretical contributions that support previous research about early identification screening were considered. Suggestions for future research included several methodological considerations and some additional research questions.

AN INVESTIGATION OF RELATIONSHIPS BETWEEN THE MATERIALS OF INSTRUCTION AND THE ASSESSMENT COMPONENTS OF TWO MAJOR READING PROGRAMS

Order No. 8200785

BORDEN-NEARY, GREGORY MATTHEW, Ed.D. *University of Colorado at Boulder*, 1981. 328pp. Director: Professor Miles C. Olson

This investigation was conducted to determine the degree of relationship between the materials of instruction and the assessment tests in the two largest-selling basic reading programs in use in the elementary and secondary schools of the United States in 1981.

The programs were analyzed individually, with the relationship defined in two ways. The analysis first examined the degree of emphasis shared between the materials of instruction and the assessment tests within the strands or sections of the programs. This was accomplished through tabulation of the instances of instruction and testing per skill dimension within the strands and comparing those data. The second analysis tabulated the number and type of inconsistencies committed by the producers of the programs.

Four categories of inconsistencies were identified. They are inconsistencies resulting from the following: (1) skills which were not tested in the element of the assessment component in which they were said to be tested but were tested at the appropriate level in some other element of the component; (2) skills which were not tested where they were said to be tested nor were they tested at the prescribed level in any other element of the assessment component; (3) skills which were not tested at all anywhere in the program; and (4) skills which were tested before they were addressed in the program of instruction.

The data show a very acceptable balance to be struck between instances of instruction and testing within the strands of Program One. Similar data collected from Program Two show large discrepancies between instances of instruction and testing within strands of that program.

The inconsistency counts reveal a substantial number of inconsistencies in both of the programs examined.

AN ANALYSIS OF THE READING PERFORMANCE OF ALABAMA ELEMENTARY SCHOOL STUDENTS, GRADES 1-6, AS MEASURED BY THE *CALIFORNIA ACHIEVEMENT TEST*, SPRING 1979

Order No. DA8204840

CARWILE, REBECCA LYNN FRANCIS, Ed.D. *The University of Alabama*, 1981. 214pp.

The purpose of the study was to examine the reading performance of elementary children in the state of Alabama. Specifically, the study sought to determine the distribution and range of reading test scores on *The California Achievement Test, Form C* (CAT), administered in the Spring 1979, within the state of Alabama, to identify educational conditions and demographic features descriptive of higher scoring school districts and lower scoring school districts, and to compare patterns of performance of students in selected school districts in terms of the specific skill areas.

The mean grade equivalent scores for grades one and two were equal to that of the national norm. Grades three, four, and five, were one month below the national norm. Grade six was two months below the national norm. The mean grade equivalent score for grade two was lowered by districts with extreme low scores. The score for grade four was raised by districts with extreme high scores.

System size, teacher experience, the number of special services for remedial and special education students, parent income, and race were the educational conditions and demographic features which differed significantly between the higher scoring districts and the lower scoring districts. The skills mastery of the two groups differed only in degree of mastery.

VALIDATION OF A CRITERION REFERENCED READING SKILLS MASTERY TEST FOR THE FIFTH LEVEL OF GEMS

Order No. DA8205303

CHRISTENSEN, BYRON JAMES, ED.D. *Utah State University*, 1981. 145pp. Major Professor: Dr. E. Malcom Allred

The purpose of this study was to validate a criterion-referenced Readig Skills Mastery Test for the Fifth Level of GEMS (RSMT-5). This test was designed to measure fifth grade students' mastery of specified reading goals and objectives at the fifth level in GEMS (Goal-Based Educational Management System). The subjects in this study were 407 fifth grade students from four representative elementary schools (selected by the GEMS Project Director) in Jordan, Utah, School District.

The RSMT-5 (96 items) consisted of two subtests: the 56 item GEMs Phonics/Structure/Vocabulary Subtest; and the 40 item GEMS Comprehension Subtest constructed by teacher specialists. Ten procedures were used to gather information regarding the validation of the RSMT-5.

It was concluded that teacher specialists in Jordan, Utah, School District had constructed a usable, valid criterion-referenced RSMT-5. Six major validation results were derived from this study: (1) Ten phonics subtest items and six comprehension subtest items were subject to revision. (2) Correlations on phonics subtest, comprehension subtest, and total RSMT-5 had correlation coefficients in the .65 to .85 range with the ITBS Vocabulary and Comprehension Subtests. This indicated that the RSMT-5 was substantially correlated with the ITBS vocabulary and comprehension subtests. The shared variance ranged from 49.8% to 60.5%. (3) The GEMS phonics and comprehension subtests had correlation coefficients above .65 with the teacher ratings which indicated that the criterion-referenced reading tests as well as the teacher ratings identified the same students as good readers. (4) Each subtest and the total RSMT-5 had reliability coefficients above .85 (phonics .93, comprehension .89, and total RSMT-5 .95) which validated the internal consistency of the test. (5) There were low correlations for each of the seven course goals with previous mastery of GEMS course goals. Possible explanations could be that the criteria used to assign mastery of the seven course goals was inadequate, or that the students had a low retention rate of previously mastered reading course goals. (6) Evaluation of test items by four reading specialists indicated higher content validity (85.6%) for the GEMs Comprehension Subtest than for the GEMS Phonics/Structure/Vocabulary Subtest (72.7%).

PREDICTING ELEMENTARY STUDENTS' READING ACHIEVEMENT UTILIZING READING SPECIALISTS' AND ELEMENTARY TEACHERS' RATINGS OF AFFECTIVE VARIABLES

Order No. DA8205634

CRABTREE, MARY JOHANNA, ED.D. *Auburn University*, 1981. 164pp. Director: Ronald G. Noland

The purpose of this study was to identify reading specialists' and elementary teachers perceptions of the affective behaviors and characteristics of good and poor readers and to determine the significance of these perceptions in predicting reading achievement of second and fourth grade students.

The sample for the first phase consisted of: (a) 140 reading specialists from the United States, and (b) 280 elementary teachers from various schools in Alabama. The sample in the second phase consisted of: (a) 22 second grade teachers and 209 of their second grade reading students, and (b) 22 fourth grade teachers and 202 of their fourth grade reading students.

A *Checklist of Affective Behaviors and Characteristics* was developed for the purpose of identifying reading specialists' and elementary teachers' ratings of the 10 highest and 10 lowest variables relative to the development of good readers. This checklist was also utilized to determine second and fourth grade teachers' perceptions of these affective variables concerning their reading students. The sample of second and fourth grade students' total reading achievement was established by using scores from an administration of the reading subtests of the *California Achievement Test*.

The Mann-Whitney U test was conducted to determine the differences in reading specialists' and elementary teachers' ratings of the affective variables. Significant differences at the .05 level were found between 16 of the 36 variables. Elementary teachers rated significantly higher variables concerning acceptable social behaviors. In contrast, reading specialists rated significantly higher variables that seemed to include feeling and thinking skills.

Multiple regression equations were obtained in order to analyze the relationship between the second and fourth grade groups based on reading specialists' and elementary teachers' ratings of the 10 highest and 10 lowest affective behaviors and characteristics. Significant relationships ($p < .05$) were found between 13 of these variables and reading achievement of the sample of second and fourth grade students.

DEVELOPMENTAL INFLUENCES ON READING READINESS IN KINDERGARTEN CHILDREN

Order No. DA8203961

DELLO RUSSO, ROBERT GERARD, PH.D. *Boston College*, 1981. 147pp.

In an effort to identify early children who may be "at risk" for reading failure, numerous preschool screening programs have been developed. Because many of these programs require lengthy testing procedures and have sophisticated and sometimes complex scoring systems, and because others are quite costly and are subsequently financially impractical for large-scale screening, it is therefore important to identify a developmental screening procedure that is both valid and economical: one which would be simple to administer and yield results that are easily scored. The *Boyd Developmental Progress Scale* (BDPS) was selected as the instrument which best met these criteria. In addition, it has the advantage of providing a profile of the child's performance on the record sheet.

Problem to be Investigated. The purpose of this study was to determine if a child's performance on the BDPS is significantly related to his end-of-the-year performance on a reading readiness test. This study also investigated if there was a significant relationship between certain biographical and developmental variables (gestation period, birth complications, birth weight, age sat, age walked, age first word, age toilet trained, bedwetting, allergies, vision problems, hearing problems, laterality and bilingualism) and a child's performance on tests of reading readiness and overall developmental progress.

The subjects for this study consisted of 93 four and five year old urban, ethnic youngsters who were entering Kindergarten for the first time and who participated in a comprehensive screening program. Each child was administered the BDPS prior to entering Kindergarten and biographical and developmental information was obtained from the mother. In May of their Kindergarten year, reading readiness was measured by the *Metropolitan Reading Readiness Test, Level II--Form P* (MRRT).

Findings. A two-way analysis of variance was used in order to answer the question, do children who perform below age level on various developmental tasks (Motor, Communication and Self-Sufficiency) as well as overall developmental progress, tend to score lower on a reading readiness test (including Auditory, Visual and Language skills) than children who perform at/above age level on these same developmental tasks? The main sources of variation tested for in these analyses were developmental age and sex. A t-test for independent variables with interval scale data and a chi-square test for nominal scale data were used to answer the questions, do children who perform below age level on overall developmental progress tend to have certain biographical and developmental variables in common? and do children who perform below the 51*st* percentile on a reading readiness test have certain biographical and developmental variables in common?

The major findings of this study indicated that developmental age level on tasks of motor development and communication are

significantly related to performance in Auditory, Visual, Language and Reading Readiness skills. Also, a child's overall developmental progress is significantly related to Auditory, Visual and Reading Readiness skills--but that developmental age on tasks of self-sufficiency is not significantly related to Auditory, Visual, Language or Reading Readiness skills. The findings also revealed that boys who scored at/above age level on overall developmental progress and tasks of self-sufficiency and communication performed significantly better than girls on Auditory and Reading Readiness skills--and that there was no interaction between the two factors of sex and developmental age level in explaining the differences in reading readiness scores received by boys and girls. In regards to the relationship between the selected biographical and developmental variables and overall developmental progress and Reading Readiness, bilingual children performed significantly poorer on both measures than their monolingual counterparts. Age sat and age toilet trained were found to be significantly related only to overall developmental progress.

THE CONCURRENT VALIDITY OF PROGRESS MEASURES OF BASAL READING MATERIAL

Order No. DA8206352

FUCHS, LYNN SHTEIR, PH.D. *University of Minnesota*, 1981. 166pp.

The research addresses three questions: (1) Does performance on simple progress measures demonstrate concurrent validity with respect to performance on standardized reading achievement tests? (2) Is the strength of association between simple progress measures and standardized reading achievement tests dependent on the criterion for mastery employed? (3) Is the strength of association between simple progress measures and standardized reading achievement tests dependent on the specific reading curriculum employed?

Subjects were 91 students distributed across grades one through six, who had been randomly selected from one elementary, metropolitan school and for whom parental permission had been obtained. During one session, each subject was individually tested by a trained examiner on several measures, resulting in the following scores: Raws scores and grade equivalency on scores on the Word Identification and Passage Comprehension tests of the Woodcock Reading Mastery Tests; words correct per minute, errors per minute, and percent correct scores, all three of which were calculated on 10 Ginn 720 oral reading passages and on nine Scott-Foresman Unlimited oral reading passages. Additionally, within each series, students were assigned seven mastery scores based on seven mastery criteria. The mastery scores represented the progress measure variable. The words correct per minute, errors per minutes, and percent correct all calculated on 19 different passages represented the performance measure variables. Pearson Product-Moment correlations were generated to assess the concurrent validity of measures and to examine the strength of association between measures.

Results revealed statistically significant correlations between the simple progress measures and both standardized tests. Correlations ranged from .57 to .95, with all correlations greater than .80 except for those of the most stringent mastery criterion, 100 words correct per minutes with two or few errors. For this stringent performance standard, the average correlation was .62. Therefore, the progress measures demonstrated concurrent validity with respect to the standardized reading achievement tests employed. Additionally, the strength of association between the simple measures and the standaridized reading tests appeared to be unrelated to the specific curriculum employed, but related to the mastery criterion selected.

In addition to the research questions explored, six analyses relating to other technical critical for selecting among direct, repeated measurement formats were completed with the following results: (1) Correlations between the progress measures and the correct rate and percent correct performance measures of reading achievement were high and statistically significant ($p \leq .05$). However, the progress measures did not consistently correlate significantly or strongly with the error rate performance measures. (2) Depending on which mastery criterion was employed, the extent of congruency between progress mastery scores and teacher judgments of those scores varied on mean percentage of overlap. (3) Similarly, percentage of overlap and correlated *t* test analyses revealed a differential pattern of congruency between mastery level grade scores and achievement test grade scores, depending on which mastery criterion was employed. (4) Within correct rate and percent correct measures, regardless of difficulty levels of the performance measures, the correlations between progress measures and performance measures were all statistically significant ($p \leq .05$) and similar. However, within error rate scores analyzed by difficulty level, all relevant correlations were neither statistically significant nor high. (5) The average progress per grade level within progress measurement appeared to be smaller for the most stringent performance standard than for the other mastery criteria. (6) Finally, within performance measurement, the average increase per grade level appeared to be similar regardless of the difficulty level of the material employed.

PRIOR KNOWLEDGE AND READING COMPREHENSION TEST BIAS

Order No. DA8203497

JOHNSTON, PETER HOWARD, PH.D. *University of Illinois at Urbana-Champaign*, 1981. 252pp.

This dissertation examined bias, especially that due to prior knowledge, in tests of reading comprehension. A pilot study demonstrated that prior knowledge has a strong and measurable effect on comprehension from expository text, even when measured with multiple choice questions. This was demonstrated in two ways, by (a) measuring prior knowledge with passage independent questions, and (b) creating an unfamiliar text by substituting pseudowords for certain familiar words in the text.

The main study had two main thrusts. One thrust was a within-subject examination of the mechanisms through which prior knowledge might influence reading comprehension test performance, and the second was an examination of ways to remove test bias. The mechanisms investigated were: decoding speed, short-term memory capacity, and long-term memory.

Prior knowledge was assessed with content-specific vocabulary questions. Short-term memory capacity was measured by means of a listening task similar to that used by Jarvella (1971). Speed and accuracy of decoding content-related word lists was recorded. Reading comprehension was assessed with a text, followed by 18 multiple-choice questions. These 18 questions were composed of six of each of Pearson and Johnson's (1978) question types; textually explicit, textually implicit, and scriptally implicit, half of each addressing central information, half addressing peripheral information.

Each of the above tasks was replicated three times for each subject, once in each of three content areas. Long-term memory demands upon the reader were manipulated by (a) allowing the reader to refer back to the text while answering the questions (low demand), (b) preventing the reader such text access (moderate demand), and (c) preventing text access and delaying question answering (high demand).

It was found that while prior knowledge influenced decoding speed and reading comprehension, and mean short-term memory capacity influenced mean reading comprehension, within subjects no direct effects of short-term memory or decoding speed on reading comprehension were observed. The extent to which readers were dependent on long-term memory influenced reading comprehension test performance, and there were indications that this might be moderated by the extent of the reader's prior knowledge.

Not only were quantitative effects of prior knowledge on reading comprehension demonstrated, but qualitative effects were also demonstrable through an examination of performance on different question types. The availability of the text during question answering was found to exert a powerful influence on performance on certain question types. Peripheral textual items were most sensitive to such influence, central items and scriptal items were least sensitive to such influence. It was noted that performance on central questions actually improved when readers could not refer back to the text.

The second thrust of the study involved the problems of removing bias from tests of reading comprehension. This was investigated by administering the tests to two subpopulations of eighth graders, one urban, and one rural.

Bias is considered to be at the individual level, and thus should only be removed at that level, not at the population level. Using the specific vocabulary test, this was readily accomplished for bias due to prior knowledge, and incidentally resulted in a decrease in the bias due to intelligence. A conventional approach to bias removal (collapsing across several text content areas) also removed the bias

due to prior knowledge, but at the same time it increased the bias due to intelligence. This latter bias was also found to be increased when readers were able to refer back to the text while answering the questions.

Results are interpreted to suggest quite drastic modifications of our current reading comprehensions tests and our methods of dealing with bias.

PATTERNS OF THREE SELECTED GROUPS OF LEARNING DISABLED AND NORMAL CHILDREN ON THE READING MISCUE INVENTORY

Order No. 8201894

JONES, RUTH ELLEN, ED.D. *Ball State University*, 1981. 170pp.
Chairperson: Dr. J. David Cooper

The purpose of this study was to identify the differences in the reading behaviors of subgroups of learning disabled children and of normal children.

The null hypothesis tested in this study explored differences in the performances of learning disabled subgroups and normal children in the following areas: graphic similarity, sound similarity, grammatical function, comprehension pattern, grammatical relationships and retelling score. These areas were measured by the use of the *Reading Miscue Inventory* and the *Analytical Reading Inventory*.

Ninety students were chosen to participate in the study. Fifty-eight learning disabled students were classified either Learning Disabled - No Discrepancy or Learning Disabled - Discrepancy according to scores obtained on the *Wechsler Intelligence Scale for Children - Revised*. Thirty-two average students were chosen by a teacher questionnaire.

Multivariate analysis of variance was used to assess between group differences. Since the null hypothesis was rejected, post hoc pairwise comparisons were conducted to determine which pairs of means were responsible for the overall rejection. Only the difference in the Sound Similarity measure for the normal group and the LD-N subgroup emerged as clearly contributing to that rejection. Although the Retelling measure was also found to contribute significantly, this difference was not explained by any of the pairwise comparisons.

SYNTACTIC MATURITY AND SCHOLASTIC APTITUDE TEST SCORES AS PREDICTORS OF THE ACADEMIC ACHIEVEMENT OF BLACK COLLEGE FRESHMEN

Order No. DA8210537

NEDD, ANNE LORAY GASKINS, ED.D. *Temple University*, 1982. 187pp.
Major Professor: David E. Wolfe

This study was designed to determine (1) the predictability of academic achievement and posttest written syntactic maturity for college freshmen using pretest written syntactic maturity, aptitude test scores, and other selected variables, (2) if college freshmen enrolled in remedial English and those enrolled in regular English differed on first semester English grade, first semester grade point average, and posttest written syntactic maturity, and (3) if the written syntactic maturity of remedial English students and regular English students changed over one semester.

One hundred and thirty-two first-time freshmen, Fall 1976, participated in the study. One hundred and six students (350 or below on SAT-V) were enrolled in fourteen intact sections of a traditional remedial English course. Twenty-six students (above 350 on SAT-V) were enrolled in ten intact sections of a traditional regular English course.

Data were collected on age, sex, high school grade point average (HSGPA), SAT-V, SAT-M, the Test of Standard Written English (TSWE), first semester English grade (FSEG), first semester grade point average (FSGPA), and pretest and posttest syntactic maturity (words/T-unit, words/clause, and clauses/T-unit, derived from the 200-word pretest narrative composition, written during the first week of classes, and the 200-word posttest narrative composition test, written during the fourteenth week of classes.

Four research questions were tested at the .05 level of significance. Statistical techniques included Pearson product-moment correlation analyses, crosstabs analyses, multiple regression analyses, multiple discriminant function analysis, two-way univariate and two-way multivariate analyses of variance, and multivariate *t* tests (Hotelling's T^2).

The results of the Pearson product-moment correlation analyses revealed three significant correlations above .60: (1) TSWE and SAT-V ($r = .667$); (2) pretest clauses/T-unit and pretest words/T-unit ($r = .760$); and (3) posttest clauses/T-unit and posttest words/T-unit ($r = .696$). The results of the crosstabs analyses indicated that none of the correlations between FSEG and the other variables exceeded .60. . . . (Author's abstract exceeds stipulated maximum length. Discontinued here with permission of school) UMI

AN INVESTIGATION INTO THE RELIABILITY AND VALIDITY OF THE CLOZE AND MAZE AS MEASURES OF COMPREHENSION OF A SOCIAL STUDIES TEXT

Order No. 8200856

OSHIMA, LYNETTE KIM, ED.D. *Indiana University*, 1981. 231pp.
Chairman: Dr. Lee H. Ehman

Statement of the Problem. The purpose of this study was to determine whether three procedures, the cloze, maze and intact cloze were reliable and valid measures of readability on a social studies textbook. Readability refers to an estimate of reading difficulty for readers with selected printed material.

Three general questions were examined: (1) How well do scores for the cloze, maze and intact cloze relate to scores from other measures of reading ability? (2) Do the cloze, maze and intact cloze vary significantly as readability procedures? (3) Does a relationship exist between readability scores and the comprehension of content, specifically social studies? From these questions, nine research hypotheses were developed to guide this investigation.

Procedures. The cloze procedure consists of a passage from the material to be read in which every nth word (in this study every seventh) has been deleted and replaced by a blank. The reader must complete the blank with the exact word deleted. The maze and intact close also use a passage with systematic deletions to determine readability. However, the maze provides a multiple choice format for each blank and in the intact cloze, the intact passage, without deletions, is read before the same passage with deletions, as in a regular cloze, is administered. The percentage of correct replacements constitutes a comprehension score which is used to categorize the passage as suitable for independent or instructional reading, or unsuitable, if on a frustrational level.

The passage was selected from a U.S. History textbook because: (1) most states required a U.S. History course for graduation from high school; (2) there has been a tradition of dependence on a single textbook as the basic instructional resource for all students in this course; and (3) the unpopularity of this course is often attributed to the frequency and length of reading assignments.

Scores of 181 high school sophomores on one of three readability procedures were correlated with their ability to answer questions on a comprehension test; their previous scores on a standardized reading test (the Comprehensive Test of Basic Skills); the academic track of the U.S. History class from which the student was selected; and a subjective rating of reading ability by his/her U.S. History teacher.

Conclusions. The cloze, maze and intact cloze were found to be reliable and valid measures of readability. Readability scores were correlated with the reading ability of students in the study. Despite the varied methods of reading assessment used, correlations were positive and significant at the .001 level for each readability procedure. Reading ability is predictive of reading difficulty especially in the cloze, maze and intact cloze which measure readability through an interaction between the reader and the text.

The cloze, maze and intact cloze were then compared to determine if differences existed among the three. A distinct pattern developed in which correlations with the cloze were generally higher and the maze lower than the other two. The cloze appeared to be the most effective and efficient procedure of the three.

A LONGITUDINAL STUDY ON THE PREDICTIVE ABILITY OF A PRESCHOOL SCREENING INSTRUMENT TO LATER READING ACHIEVEMENT

Order No. DA8207612

PEARSON, JUDY DIANNE, ED.D. *Ball State University*, 1981. 140pp. Chairman: Dr. Betty Beeson

The purpose of this study was to investigate the predictive ability of specific items in the *Catch-'Em Early* preschool screening instrument with subsequent reading achievement as determined by *SRA Achievement Series* test scores at the second–, fifth–, and eighth–grade levels.

The twenty selected items from the preschool screen were: walking board, jumping, body image, visual sequencing, body localization, gross space, angels-in-the-snow, eye motor coordination, visual figure ground, visual form constancy, spatial relations, reproduction in space, counting, colors, auditory sequencing, chalkboard, visual forms, visual memory, ocular pursuits, visual acuity.

A Pearson Point Biserial Correlation technique was used at each grade level to determine the best predictors. The .05 level of significance was established for the non-acceptance of the null hypotheses. A regression analysis was used to determine the best combination of predictors for each grade level.

Findings. (1) The visual form constancy screening item had a significant positive relationship with second-grade reading scores. (2) The walking board and auditory sequencing screening items had a significant inverse relationship with second-grade reading scores. (3) The best predictive combination for second-grade reading was: walking board, auditory sequencing, and visual form constancy. (4) The body image, visual sequencing, body localization, angels-in-the-snow, visual form constancy, reproduction in space, counting, colors, auditory sequencing, chalkboard, and visual forms screening items had a significant positive relationship with fifth-grade reading scores. (5) The visual memory screening item had a significant inverse relationship with fifth-grade reading scores. (6) The best predictive combination for fifth-grade reading was: visual sequencing, color discrimination, body image, chalkboard, and visual forms. (7) The body image, body localization, angels-in-the-snow, eye motor coordination, reproduction in space, counting, colors, auditory sequencing, chalkboard, and visual forms screening items had a significant relationship with eighth-grade reading scores. (8) The visual memory screening item had a significant inverse relationship with eight-grade reading scores. (9) The best predictive combination for eighth-grade reading was: visual sequencing, chalkboard, visual forms, reproduction in space, and eye motor coordination.

USING THE STANFORD ACHIEVEMENT TEST IN THE INITIAL TEACHING ALPHABET: A STUDY OF THE SUBTEST SCORE DATA

Order No. DA8207334

PENNER, DAVID I., ED.D. *Columbia University Teachers College*, 1981. 56pp. Sponsor: Professor Anne Marie Mueser

This study examined the norms of the standardized reading test presently employed with populations of children using the Initial Teaching Alphabet (i.t.a.) for beginning reading instruction. The study considered whether or not the published norms for the traditional orthography (t.o.) version of the same test could be used reliably with students taking the test in the i.t.a. edition.

Test scores on the Stanford Achievement Test, Primary I Battery, Form A, were obtained for 210 students learning to read in traditional orthography and tested in t.o., and for 210 students learning to read in the Initial Teaching Alphabet and tested in i.t.a. Intercorrelations for the subtests were computed for each group of students. The patterns of scores for each of these groups was analyzed and compared to the patterns of subtest scores reported for the original group on which the test was normed.

A test for statistical significance of differences between independent correlations was used to compare each subtest intercorrelation for the i.t.a. group and the t.o. group with the corresponding correlation for the original norms group. With the exception of one comparison in which the numbers were identical, all differences between the comparisons were statistically significant at the .05 level. However, it was concluded that these findings were a result of the large sample size, and that the differences were not of educational significance.

When the intercorrelations of the norms group, the t.o. group from this study, and the i.t.a. group were plotted on the same graph, the patterns of the intercorrelations were very much alike. It was concluded that using the norms from the published version of the test in traditional orthography would not be inappropriate when testing students in the Initial Teaching Alphabet.

THE PREDICTIVE EFFECTIVENESS OF THE *KINDERGARTEN TEACHER RATING SCALE* AS MEASURED BY STANDARDIZED READINESS TESTS AND TOTAL READING ACHIEVEMENT

Order No. DA8128749

SELDERS, JANET, ED.D. *University of Kansas*, 1981. 97pp.

Statement of the Problem. The issue of early identification, classification and labelling of children has elicited much controversy among educators in the field of special education. Related to this entire labelling issue is the question regarding the validity of assessment tools used to identify children with learning problems. There have been few, if any, adequate single instruments for screening young children at high risk. Therefore, this study explored the effectiveness of the *Kindergarten Teacher Rating Scale* in predicting total reading achievement scores obtained at the end of first grade. The study was also designed to investigate the relationship among kindergarten teacher ratings and student readiness test scores. Finally, the study evaluated the relationship of students' chronological age and sex with teacher ratings and academic achievement.

Procedure. At the conclusion of the school year, May, 1979, 33 kindergarten teachers in three school districts, Olathe, Kansas, Liberty, Missouri and Lawrence, Kansas rated their students on the *Kindergarten Teacher Rating Scale*. Standardized readiness tests were administered to the subjects at different times during the school year. Four hundred-ninety one students were tested at the end of kindergarten while 454 subjects were tested at the beginning of first grade. The scores obtained from the *Kindergarten Teacher Rating Scale* were correlated with the standardized readiness test scores to establish concurrent validity of the rating scale. During May, 1980, the *Stanford Achievement Test: Reading Battery* was administered to those children previously tested in kindergarten (n = 895). The total reading achievement scores were correlated with teacher ratings and standardized readiness test scores.

Findings. There is a significant relationship between (1) the *Kindergarten Teacher Rating Scale* and standardized readiness tests given at the beginning of first grade, (2) teacher ratings at the end of kindergarten and reading achievement scores at the end of first grade, (3) standardized readiness test scores at the end of kindergarten and at the beginning of first grade with total reading achievement at the end of first grade, and (4) performance areas 2 and 3 *Speed of Learning* and *Number and Space Relations*, respectively, from the *Kindergarten Teacher Rating Scale*, were found to be the subscales which best predicted total reading achievement at the end of first grade. No significant correlation was found between chronological age and sex and kindergarten teacher ratings, standardized readiness test scores or total reading achievement.

Conclusions. The *Kindergarten Teacher Rating Scale* correlates with the standardized readiness test scores obtained at the beginning of first grade. It is concluded, however, that the *Kindergarten Teacher Rating Scale* is a more efficient method of identifying children at high risk since it is less costly and time consuming to administer and allows school administrators to begin planning an educational program for "high risk" students before he/she enters first grade.

A new screening instrument using the two performance areas 2 and 3, *Speed of Learning* and *Number and Space Relations* should be designed and analyzed for predicting total reading achievement. This screening program would be intended to locate children who were likely to fail in the regular first grade curriculum. Those who are identified as "high risk" for failure can then be tested further.

A GROUP INFORMAL READING INVENTORY: AN INSTRUMENT FOR THE ASSESSMENT OF ESL STUDENTS' READING PERFORMANCE

Order No. DA8207492

STARK, MERITT WILLIAM, JR., PH.D. *Oregon State University*, 1982. 270pp.

Purpose of the Study. The purpose of the present study was to design and test a diagnostic instrument to assess the reading performance of students for whom English is a second or foreign language in the context of a developmental reading program at an intensive English language institute.

The major objectives of the research were to investigate: (1) The components of an ESL developmental reading program. (2) The function of a reading inventory in providing students with reading materials at their appropriae level of instruction. (3) The utilization of the Inventory in a Reading Laboratory specifically designed to provide for the individualization of reading instruction. (4) The reliability and validity of the Inventory in measuring student reading performance.

Procedures. Two forms of the ESL Group Informal Reading Inventory were developed utilizing a computerized readability program that provided data on the readability levels of the reading passages. For each form twelve reading selections were arranged according to their reading grade levels beginning with reading grade level one and extending through reading grade level twelve. Comprehension questions followed each reading selection. The two forms of the Inventory were administered to 121 students enrolled at either the English Language Institute at Oregon State University or at the American English Institute at the University of Oregon. Reliability of the instrument was determined by administering equivalent forms of the instrument to the students and then calculating the Pearson Producted Moment Correlation Coefficient and the standard error of measurement. Validity was determined by correlating student test scores on the Inventory with student scores on the TOEFL Reading Comprehension and Vocabulary section. Regression analysis was employed to facilitate the prediction of TOEFL scores from scores on the Inventory.

Findings of the Study. The reliability coefficient for those sections of the Inventory tested was .87. The estimated reliability of the entire Inventory was calculated to be .93. The standard error of measurement was calculated to be 2.72. A coefficient of .62 was obtained when Inventory scores were correlated with TOEFL Reading Comprehension and Vocabulary section scores. The Inventory was found to be a good predictor of TOEFL Reading Comprehension and Vocabulary section scores when the two instruments are administered concurrently.

THE RELATIONSHIP BETWEEN VOCABULARY AND READABILITY OF SCIENCE TEXTBOOKS FOR GRADES FOUR, FIVE, AND SIX

Order No. DA8211360

STEINBERG, JOAN EMILY, ED.D. *University of San Francisco*, 1981. 501pp. Chairperson: S. Alan Cohen

When the Dale-Chall formula is used to measure readability of intermediate grade science textbooks, it consistently gives grade equivalents higher than the publishers' designations. In nine intermediate grade science textbooks fourteen readability variables, including twelve vocabulary variables, were compared. ANOVAS were used to determine the proportion of variance accounted for by differences in three grade levels, three science subject areas, three publishers' series, and their interactions. Means were compared using differences in percent of common within-group standard deviations.

Science prose passages contained relatively large numbers of unfamiliar words compared to the criterion passages on which the Dale-Chall formula is based. Inflated grade equivalents for the science textbooks were produced by these words. The criterion passages and the science prose passages also differed in vocabulary load and sentence length characteristics, suggesting that differences in English prose preclude the use of a single readability formula for all types.

Differences across subject areas in text frequency, word frequency (Standard Frequency Index), and numbers of unfamiliar words, especially technical vocabulary words, showed greater variation than across publishers' series or, in some instances, even across grade levels. Most unfamiliar words were technical vocabulary words which were repeated more often than were two other categories of unfamiliar words. The Dale-Chall formula is insensitive to text frequency differences. In passages where many unfamiliar words were repeated, accounting for text frequency lowered readability values. Repeated technical vocabulary words are probably low information words that contribute to the reading ease of a passage. This finding is compatible with Finn's theory of lexical markers and transfer features. While polynomial regression analysis generally showed the relationships between the readability variables to be linear, the relationship between text frequency and Standard Frequency Index was explained in terms of a nonlinear relationship between them previously described by Finn.

THE RELATIONSHIPS BETWEEN READING PERFORMANCE AND THREE MEASURES OF DISTRACTIBILITY USING YOUNG CHILDREN

Order No. DA8203144

THOMAS, MARSHA GRACE, ED.D. *Oklahoma State University*, 1981. 65pp.

Scope and Study. This study was designed to determine the relationships between distractibility and reading achievement as measured by selected subtests of the *McCarthy Scales of Children's Abilities* (MSCA) and the *Wechsler Intelligence Scale for Children-Revised* (WISC-R), the *Conner's Teacher Rating Scale* (CTRS), and the Gates-*MacGinite Reading Test*, 1965 Level A Form 1 (Gates). Subjects used were 65 children in first grade. Distractibility in young children can have marked effects on subsequent reading levels if instructional modifications are not made for young learners. This study sought to identify distractible children as early as possible in their academic careers. The children were tested during the month of April, 1980 and the month of April, 1981 with the four tests listed above. The resulting data were analyzed using the Pearson product-moment correlation coefficient and a partial correlation coefficient controlling for the effects of intelligence.

Findings and Conclusions. A significant relationship between two measures of distractibility was found using the WISC-R and CTRS. The WISC-R and CTRS were also found to correlate significantly with reading achievement as measured by the Gates. The selected subtests of the MSCA were not identified as significant correlates of reading achievement. It was concluded that the MSCA subtests were not valid indicators of a child's distractibility level. An important new use of the CTRS as a device to identify children with attentional deficits was supported. The WISC-R remains the best indicator of distractibility in young readers.

THE USE OF A CLOZE TEST TO JUDGE THE READABILITY OF A PROPOSED SCIENCE TEXT FOR A SIXTH GRADE

Order No. DA8210574

ZIPIN, BETTE ITKIS, PH.D. *Temple University*, 1982. 148pp.

The study attempted to discover an alternative to a publisher's application of a readability formula to indicate the suitability of a book for a student. There were two parts to the investigation. The aim of Study I was to see how closely cloze technique results would correlate with the readability formula results as used on a science textbook recommended by the publisher for sixth grade children. In Study II the aim was to determine if the cloze technique would be a valid predictor when compared to the results on an Informal Reading Inventory (IRI).

For the cloze a test section near the middle of the Level 6 text was selected. With the first sentence intact, beginning with the second sentence, every tenth word was deleted until there were 50 blanks. The tenth-word deletion pattern was chosen because a literature review indicated that with content materials containing a density of facts a wider deletion pattern would cause less frustration. For practice, a six-item cloze was constructed in similar fashion from material in a Level 3 text from the same publisher. The practice cloze and the target cloze were used in both Study I and Study II.

For Study I, a sample of 106 students was drawn. They were in five sixth-grade classes in two elementary schools. On the Stanford Achievement Test (SAT) these children had attained a mean grade-equivalent score in Total Reading of 7.44. The product-moment correlation between Total Reading and cloze was .67. However, there was not total agreement among the publisher's assigned readability level for the entire text (Dale-Chall 4), the investigator's application of the formula to the samples of the text used for the cloze test (Dale-Chall 5-6), and interpretation of the mean grade-equivalent score on the SAT (did 7.44 indicate instructional, frustration, or independent level?). On the cloze test the majority of the group, 77%, scored at instructional level and above. Thus, there appeared to be justification for exercising caution in trying to "match" a standardized test grade-equivalent score to a formula readability estimate. . . . (Author's abstract exceeds stipulated maximum length. Discontinued here with permission of school) UMI

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